NEW YORK STATE MECHANIC.

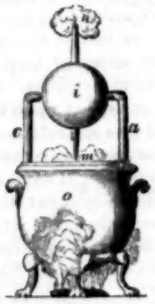
Under the Direction of the New York State Mechanic Association.

VOL. I. ALBANY, MARCH 19, 1842. No. 17.

ANECDOTES OF THE STEAM ENGINE.

No. III.

A motion round an axis is elegantly given, (fig. C,) to a small globe, by means of the re-action of steam upon the air. Two pipes, *a*, *c*, each having their upper extremity bent towards each other, rise from the cover of a vase, *o;* one of these, *c*, acts merely as a pivot, the other, *a*, conducts steam, raising in the boiler, into the ball or globe, *i*. This is suspended between them by having the steam-pipe, *a*, inserted into it, and is kept in its position by the pivot formed at the end of the opposite pipe, *c*. Two pips, *m*, *n*, also bent at right angles at their extremities, are inserted into the circumference of the globe, and from a communication between the caldron and the atmosphere.



C

Heat being applied to the caldron, the steam, flowing from it through the vertical pipe *a*, into the little globe, *i*, thence finds its way through the pipes or arms, *m*, *n*, into the atmosphere; at this instant the reaction of the vapour on the air makes the globe revolve with a magical celerity, "as if it were animated from within by a living spirit."

These three attempts at employing steam as a mechanical power are described, without even a hint at their extension to any useful purpose. This can detract but little from the merit of Hero; a sagacity little short of prescience could alone have enabled him to anticipate the grandeur of that creation that was to arise from these beautiful but comparatively insignificant beginnings.

That so ingenious a people as the Greeks should not have been led, by those direct experiments, to a practical application of the agent, so exquisitely moulded by Hero into a mechanic power, may, in all probability, be ascribed to the operation of the same cause as those which have thrown a veil of deep and impenetrable obscurity on so many of the arts of antiquity. "The ancient philosophers," says an excellent mechanic, "esteemed it an essential part of learning to be able to conceal their knowledge from the uninitiated; and a consequence of their opinion, that its dignity was lessened by its being shared with common minds, was their considering the introduction of mechanical subjects into the regions of philosophy a degradation of its noble profession.

The love of ingenious and refined contrivance, which notwithstanding the neglect of their philosophers, may be said to have formed a prominent feature in the character of the Greeks, descended not, along with their empire, to the Romans. Improvements in the arts are sought for in vain among these victorious soldiers, during the rise and progress of their iron power; a solitary instance of an application of steam is all that can be gleaned from the historians who described its decline and fall.

"In a trifling dispute between Anthemius, the architect of Justinian, and Zeno the orator, relative to the walls or windows of their contiguous houses, Anthemius had been vanquished by the eloquence of his neighbour Zeno; but the orator was defeated in his turn by the master of mechanics. In a lower room, Anthemius ranged several vessels or caldrons of water, each of them covered by the wide bottom of a flexible tube, which rose to a narrow top, and was artificially conveyed among the joists and rafters of the adjacent buildings; a fire was kindled beneath the caldrons; the steam of the boiling water ascended through the tubes; the house was shaken by the effort of the imprisoned air, and its trembling inhabitants might wonder that the city was unconscious of an earthquake they had felt; and the orator declared in a tragic style to the senate, that a mere mortal must yield to the power of an antagonist, who shook the earth with the trident of Neptune."

About the year 1125, according to the relation of William of Malmsbury, "there were extant in a church at Rheims, as proofs of the knowledge of Gerbert, a public professor in the schools, a clock, constructed on mechanical principles, and an hydraulic organ, in which the air, escaping in a wonderful manner by the force of heated water, fills the cavity of the instrument, and the brazen pipes emit modulated tones through multifarious apertures."

On the revival of learning in Europe, the ancient Platonic contempt of experiment may be said to have revived with it, and to have infected the Italian philosophers, as it had done those of the East, with an indifference towards useful or practical mechanics. Excepting occasional disquisitions, with a view to the illustration of some part of the works of an ancient author, machines were as heretofore considered to be subjects from which no distinction could arise, and their construction was abandoned to the mechanic, without a single philosopher deigning to stoop from the regions of abstract philosophy, to impart, from the stores of science, a rule, or an observation, to assist the artisan in his labour.

If nothing, therefore, can be added to the history of the employment of steam, a slight interest is attached to the fact, that a knowledge of its power was not extinct; some of its effects were dreaded by lime-burners at this period. In the heart of some stones, according to Alberti, writing in 1412, there are certain voids and concavities, in which air, being shut up, does sometimes produce incalculable mischief; "for when they come to be touched by the fire, and the stone grows hot, it turns *to vapour*, and, bursting the prison in which it is confined, with a tremendous noise, blows up the whole kiln with a force altogether irresistible."

Cardan, about 1550, displayed in his writings a knowledge of what has been called some of the, "capabilities" of steam, and more particularly with the fact of a vacuum being speedily procured by its condensation. He also early recommended that the heated fuliginous *vapour*, "which escaped from every hearth, without performing any useful labour," should be turned to a more profitable account; and in a later book he gave a description and rude diagram of a machine, moved by heated air, which, since his time has received no improvement, although much employed, and well known as the smoke-jack. His enumeration of *its* properties are not, at any rate, exaggerated, if its general adoption be held as a test of merit; and after bearing the brunt of the persevering and judicious Count Rumford's long, vigorous, and powerful attack, "nothing curtailed of its fair proportion," it may be considered an invention destined to minister to the most agreeable propensities of many generations of our successors.

Mathesius, a German author, in 1571, displayed almost as much ingenuity in contriving to introduce so untoward a subject into a sermon as a description of an apparatus, answering to a steam-engine, as would be required to invent the machine itself, and which he gives as an illustration of what "mighty effects could be produced by the volcanic force of a little imprisoned vapour."

Following in the same interesting track, about 1577, another German writer substituted steam in what is called the *whirling æolipile*, as an economical substitute for turnspit labour. Its qualities are, on this occasion, enumerated with selfishness; it is said to "eat nothing, and giving, withal, an assurance to those partaking of the feast, whose suspicious natures nurse queasy appetites, that the haunch has not been pawed by the turnspit in the absence of the housewife's eye, for the pleasure of licking his unclean fingers."

Experiments were successively made by many ingenious men, with simples machines, in generating steam. Among the most eminent were Besson, Ramelli, Porta, Decaus and Kircher. The attention which was given to contrivances for producing artificial fountains and jets to ornament the gardens of the wealthy Italians, grew into a passion, and led to some curious experiments with steam to produce the desired ornaments. Decaus deserves particular notice for his ingenuity. We have room for but one of his problems. Water is introduced into a copper globe (fig. D) *a* by a funnel; and another pipe, *i*, de-

D

scends through the fluid to nearly the bottom of the vessel. The globe is placed over a fire; the vapor which is generated in the upper part of the ball, expanding, presses on the surface of the water, and forces it up the pipe *i*, the stop-cock, at *m*, preventing the escape of the steam from the funnel.

Cardan had some clear notions of the properties of steam, but many others of the alchymists are familiar with the facts more directly elicited from Decaus's experiments; indeed, every distillatory process must have forced on their attention the great expansive power of steam; its return by condensation into water; and that the fluid, thus produced, was equal in bulk to that it possessed before it was

converted into vapor. But then a simple statement of a plain matter was never sufficient for their sublime imaginations; "some frigorific, ethereal, or ignific" spirit was either to be let loose or bound in chains, or propitiated, before the phenomena could be accounted for or explained.

ARCHITECTURE AND ARCHITECTS.

No. VI.

Notwithstanding the admission of the general truth that Egyptian architecture is suited only to our largest edifices, or which is saying the same thing, that our common sized buildings do not exhibit it to advantage, it must nevertheless be admitted that the Egyptians have produced the most sublime specimens of the art the world ever saw, and are therefore justly entitled to the appellation of the fathers of this noble and useful art; and when we call to mind the fact that their habits, customs and mode of life differed from ours, it is no disparagement to them to say that their style of building is less adopted to our present wants than our own, or that it possesses no particular advantages over that we have adapted, and which has grown up with us. They built to suit their tase and circumstances, and we do the same as far as our means will permit, and in passing judgment upon their works, the convenience of their buildings for our particular use should not be placed into the account. Some writers assert that "a good parlor in Egypt would make a good coal cellar in England," which may be true, and still not prove that such a parlor was not better adapted to their purpose, considering the climate and the habits of the people, that an English parlor would have been if constructed in Egypt. Indeed, with us, floors, side walls, and ceilings of stone would not be considered healthy nor desirable, unless in apartments little used, or in halls; while in a climate as dry and heated as that of Egypt, the reverse of this may be true; there it may produce only the coolness and moisture necessary to support and invigorate the system; so that instead of associating the Egyptian parlor with a coal cellar, we should associate it with the cooling fountain and shady grove, the exhilerating effects of which we are capable of appreciating even in our own climate. It should be borne in mind too, that our knowledge of Egyptian architecture is derived chiefly from persons who saw their buildings only in a ruined state; when time and the elements had done their work of destruction, and when savage men had expended their concentrated efforts and skill to demolish them; they have withstood the shock, and enough still remains to attest their magnificence and grandeur, and exhibit to the world monuments of skill and science which, if equalled, cannot be surpassed. The brief description of some few of these ruins can afford but the shadow of what they once were, when invested with all their original perfection and glory, and as they came fresh from the hands of the artist and mechanic, and were protected by the government and people who constructed them, and the constant resort and pride of a highly cultivated and civilized people, and constituted the repository of all they held sacred.

The principal ruins of Teutyra extend more than a mile in length by a half mile in breadth, among which are those of the Temple of Dendera. In approaching the ruins of this temple we first arrive at a small, square, stone building with four columns; passing which, and over a mass of ruins extending about two thousand feet, we arrive at an elegant stone gateway covered with hieroglyphics, and the transom ornamented with globe, serpents and wings.

Succeeding these are the representations of the heads of Isis, Osiris and Orus, and the processions of priests and people in the performance of religious service. Advancing about three hundred feet onward we arrive at the temple of Dendera, with its front profusely enriched with ornaments, a loftiy door way flanked with six massive columns, the capitols of which represent the head of Isis. The vulture with outspread wings and feathered sceptre, held by a ring, in each foot, forming in part the ornament on the walls of the porch. The plan of this temple is in the form of two parallelograms of unequal size, the side of the smaller placed against the end of the larger, and the ends projecting beyond its sides, exhibiting a faint cross. The principal enterance is into the side of the smaller parallelogram, which is not divided by partitions or walls, leaving the whole area entire except three ranges of columns running longitudinally and six transversly, eighteen in all, similar to those in front. Passing through the piercing in the second wall, the area has six columns, three on each side, ranging along the sides of the passage, and six chambers formed along the outer walls, three on each side, the outer wall pierced for a door into one of the side chambers. The next main cross wall is pierced for two doors, the one leading into a large centre chamber and the other to the stairs at one side, in the hall containing the stairs the outer wall is pierced for two doors; on the opposite side of the large chamber are two small ones. Beyond the next cross wall is a very large apartment, containing the sanctuary in the centre, and some twelve chambers formed against the outside walls. The two first mentioned apartments are the only ones which have columns, the remainder however are highly ornamented with figures, stars, hieroplyphics, and tracing along the side ceilings. The stairs leading to the top of the building are commodious and easy, and the walls highly embellished with a great variety of ornaments and figures in every apartment. The top presents a very spacious area, covered to some distance with the ruins of cottages, beyond which are spacious chambers and chapels, highly ornamented, and in keeping with other parts of this vast edifice. Among the hieroglyphics on the walls are the names of Tiberius and Augustus; also a Greek inscription stating it to have been erected when Publius Avillius Flaccus was prefect of Egypt. It is not determined whether these inscriptions point out, correctly, the time when and the person who erected this temple, or whether they have been since added, while making some necessary repairs. There are many other inscriptions and other names found in different parts of it, which seem to be of little or no importance in this brief discription.

Some reference to a few of the ruins of Thebes, will also aid us in judging of the extent and beauty of Egyptian buildings: thier ruined state however, precludes the possibility of any thing like perfect accuracy. These ruins extend over an area now occupied by nine townships, in some portions of which the walls, columns, obelisks and other ornaments tower considerably above the palm trees, presenting an almost endless forest of architectural beauty and magnificience, which seem to bid defiance to every thing like a perfect description. In our description of some of these ruins, we shall commence at a small temple, possessing nothing remarkable, at the village of Gournon. Proceeding westward a short distance, we arrive at an avenue cut from the side of a rock and about three quarters of a mile in length, lined with sphinxes and statues, and terminating at the vrstibule of the temple at Karnac, which is probably the temple of Memnon or Osymandyns, though Strabo seems to designate all that portion of Thebes on the west side of the river by the name of Memnonium. Two hundred and thirty four feet of the vestibule, or propylon, are still standing, passing which we enter the court, or dromos, which is one hundred and seventy feet to the front of the temple itself, which is about six hundred feet long by about two hundred feet wide, divided into six courts, or chambers, and containing one hundred and sixty columns of from twenty to thirty feet high and from ten to twelve feet diameter. The vestibule, or propylon, stands on the edge of the soil, and has a flight of stairs at each end leading to the top, from which, passages lead off into a number of chambers; the walls are highly ornamented with battle scenes and various other representations. The floor of the court or dromos, extending from the vestible of the temple was of solid rock, the side walls however are broken down and the court contains, in a delapidated state, the statue of the hero to whom the temple was dedicated, probably Memnon or Osymandyns. The front wall of the temple is in a ruined state, the parts remaining seem not to indicate that profusion of ornaments usually found on the fronts of Egyptian buildings; passing to the inside however, we find the usual display of ornament. The columns of the front porch, represent Osiris with his hands crossing his breast, holding the scourge, his lower limbs inclosed in a shaft, with hieroglyphics passing down the front. There seems to have been four of these columns on each side of the door, and the same number facing them on the opposite wall, while two rows of columns wider at top and bottom, and twelve feet diameter, ranged along in front of the north and south walls; the whole together forming a beautiful colonade round the entire court. In rear of the eastern colonade, there are numerous statues of black granite, though in a very dilapidated condition. Passing onward about thirty feet, an area of about thirty-five feet is presented, enclosed by a magnificent colonade formed of eight rows of columns, six in each row, making forty-eight in all, two-thirds of which are still standing the ceilings consisting of large flat stones, highly ornamented with hieroglyphics and other appropriate figures. The whole of this splendid edifice had the solid rock for its foundations and floors, except probably a portion of the vestibule in front of the first court, which may be considered as merely an appendage or ornamental entrance to the temple itself. H.

[In No. 5, for "Karnat" read KARNAC; for "Edfoe" read EDFU OR ELFOU; and for "Kaune Ombou" read KAUM OMBOU; also for "a great variety of originality" read GREAT VARIETY AND ORIGINALITY.

PROTECTIVE TARIFF.

It is strange that those who pretend to discuss the question of protective or countervailing duties, should insist that the misery entailed upon the producing classes of aristocratic governments is caused by the protection of their manufactures by those goverments. It seems as if their iteration and reiteration of it was with them enough, without an argument or fact in its support, to pass it to belief. If any do believe such a thing, it is time they were disabused of the absurdity.

In your last number, under the head of "The Protective Policy," a correspondent, without a signature, gives an article from an "eastern paper"—how very definite!—to prove the position that the "industrial policy protection" is a "disastrous folly" "fully developed," &c., and, as is generally the case with such undertakings, he shows the folly of his own attempt, in the same article, by contrasting the condition of England and Switzerland. He says: "the prosperity of Switzerland is doubtless the result of her freedom, and especially the freedom of her industry, without which political freedom cannot secure prosperity—cannot even itself long endure." He also says that "the commercial policy of nearly all Europe is restrictive, almost to the verge of prohibition."

Now, does he not know that the laborers of "nearly all Europe," as well as England, are ground to the dust by the enormous taxes upon their productions, for supporting the royalty, nobility and aristocracy of those countries?—their standing armies and immense navies?—their colonial governments, etc.?—and will

he say that these are the results af their protective systems, created by their protections? No!—it is their accursed pensions, to support the largest amount of aristocracy possible, that takes all the earnings of the working people; and it is to get the largest amount of regular supplies from them that protection is given them. Not so in comparatively free Switzerland; there they have not such hordes of titled drones to take all from them, but are left free to enjoy the fruits of their own industry, which their peculiar position is so favorable to make more profitable than their neighbors. Surrounded by agricultural countries, and being themselves a manufacturing people, without the means of raising their food upon their own soil, without an inch of maritime to spend their money upon fortifications and navies—what need of "custom houses," and what wonder they thrive? They may work as cheap as their neighbors about them and be better off, because they may keep their earnings; whilst the Frenchman and German, upon their borders, must pay largely to support the gentry of each country. Switzerland, being composed of 22 independent republics, and containing in the whole but something over two millions of inhabitants, would not be likely to have very expensive machinery of goverment, and being entirely inland, her foreign relations are of course few and cheaply conducted, so that every thing tends to make their condition better than their neighbors. And I do believe that it will require as much logic to prove that Christianity has not produced the distress and misery of pauper Europe, as would be required to show that it is in no wise upon account of the protection afforded to their manufacturers.

In your paper of the 5th inst., a correspondent, X., has given a table, from the Journal of Commerce, to prove that our exports are greater than our imports, for the last twenty years; the object of which, in that paper, was to show that a high tariff did not prevent excessive importations, as witness years 1835 and '36, and also to prove that the balance of trade was in our favor. In getting that table it should be borne in mind that nearly all the articles exported to the British dominions are bulky articles, and, of course, the extent of them fully ascertained, whilst most of the costly importations are lighter, and easily smuggled, and much of them are smuggled, to say nothing of the manner of foreign valuations, with their double, treble, and quadruple invoices for paying the duties upon, making, as every body knows, enormous frauds upon the customs. Beside, it should be remembered that all the articles we import are used up here, whilst most of the amount sent to England and France is the raw article, which they manufacture and return to us; and, to compete in our own and foreign markets with our own manufactured goods, charging us with their labor for manufacturing it, the very thing our people should do, instead of theirs, thereby furnishing a market for our produce here, to the workmen of our shops, instead of paying the English farmer for doing it there.

"Every one must see that if Great Britain did truly buy of us as much as she sold to us, she must either send us a considerable amount of specie or fall in debt to us every year; for the strong and wide current of emigration is continually bringing us money as well as men, while the balance arising from inherited estates, bequests, &c., is also decidedly in favor of this country. Yet we are continually sending specie to England, and receiving thence very little. Why so, if she buys of us as much as she sells us?"

It has often been proved, by the free trade advocates, that high duties lessen the price of goods here, the extra duties being paid by the foreign manufacturer, so that he may keep the market, and facts incontrovertible and abundant have so shown it for years. The foreign workmen have paid our enormous national debt, incurred by our wars with England, &c.; now, why not let them pay our state indebtedness in the same way? they will do it rather than not have our market, and by so doing they come in healthy competition with our own shops, so that the purchaser here is bettered by it.

Now, my respects to "One Who Has a Trade," in your last. He attempts to show that we should be overrun by foreign workmen coming to our shops, as soon as we commence our own manufactures, and winds up his argument as follows:

"The best way to protect the manufactures of our own country is to prejudice public opinion against the use of foreign manufactures; do this effectually and a resolution will soon be formed not to use foreign manufactured articles, though brought into market, when they can buy the American which are equally as good."

Now I submit whether he has not answered himself? will not the effect be the same whether we stop importations by duties or by prejudice? I mean, of course, in so far as emigration is concerned—most certainly. Then, as it will be much easier, and more profitable to the treasury to touch their pockets than our patriotism, the former seems the safest way.

I will close this already too long article with a word to my friend "E," of West Troy, in your sixth number. His positions have been answered, generally, in this and the communications of others; but there is one position assumed which deserves particular notice, and it is this—"*yet it is only as an agriculturist that man is fully* MAN"!! I confess my astonishment that any intelligent mechanic should put forth such doctrines. What, I ask, is the agriculturist, without the making up of the mechanic? why, he dwindles at once to the most insignificant of abject, defenceless and miserable beings, without covering or habitation, working his ground and pushing the seed into it with a broken branch of some tree which his strength could sever from the trunk.

And is he less than man who by the study and application of the natural sciences is able to invest his fellow man with the means of dignifying his occupation to the pleasant, healthy, profitable and honorable one that it is? Is he that makes the plough less a man than him who uses it? Is he that investigates and unfolds the laws of nature, he that analyzes the mind, and gives the philosophy of morals, is he less than man? Is he that shoes the agriculturist, or the agriculturist's horse, less valuable, less nobly employed than he who raises the bread for the support of each? The admission that such could be the fact, would be to degrade the most valuable classes of men to the condition of menials. And yet, what other inference can be drawn from the language of "E." than this? I will only say, that, while I will maintain the equality of the agriculturist with the most honorable class, I will also maintain that while he depends upon others for any thing essential to his happiness, or to the following his pursuits in life, he is not above those on whom he depends, be it for the means of enlarging his knowledge, or for the tools to economise his labor; and especially is it unbecoming one who talks of "republicanism" to make the admission of superior claims to any class. T.

SYNOPSIS OF LAW.

LEASE.

A letting of lands, tenements and hereditaments, to another for term of life, years, or at will, for a rent reserved.

It must be for a less term then the lessor hath in the premises, otherwise it is rather an assignment than a lease.

A lease for a term exceeding one year must be in writing signed by the lessor or his agent.—2 *R. S.* 134, § 6.

Where the relation of landlord and tenant is established, it attaches to all who may succeed to the possession, through or under the tenant, either immediately or remotely.—5 *Cow.* 129.

An acceptance of a new lease of the same premises is a virtual surrender of the first lease.—6 *Wen.* 569.

To the making of a good lease several things must concur. 1. There must be a lessor not restrained from making a lease. 2. A lessee not disabled to receive. 3. A thing demised which is demisable, and a sufficiently clear description of it, to enabled it to be identified.

If the lease be for years it must have a certain commencement and determination. It is to have all the usual ceremonies, as sealing delivery, &c., and there must be an acceptance of the thing demised.

If a power be given to make a lease, all the requisitions particularly specified in it must be strictly observed.

Leases for life should be under seal.—1 *R. S.* 738, § 137.

Leases for a term exceeding three years must be recorded the same as deeds.—1 *R. S.* 762, § 58.

Where there is a tenancy at will or by sufferance, it may be terminated by the landlord's giving one month's previous notice in writing to the tenant, requring him to remove therefrom.—1 *R. S.* 745, § 7.

Service of such notice must be on the tenant, or on some person of proper age residing on the premises; or if neither can be found, by affixing the same on a conspicuous part of the premises.—1 *R. S.* 745, § 8.

No notice is necessary to terminate a lease for a definite time.

A tenant originally for one year, holding over, is tenant from year to year.—4 *Wen.* 327; 15 *J. R.* 505.

Tenancies at will are construed tenancies from year to year.

This is merely for the purpose of a notice to quit. 4 *Cow.* 349.

A tenant cannot deny his landlord's title, but he may show that it has terminated, either by his own limitation, or by conveyance, or by operation of law.

As between landlord and tenant the latter may, during the term, remove copper stills, kettles, steam tubs, &c., erected by him for the purpose of carrying on the business of a distillery, though fixed to the building.—5 *Cow.* 323.

The landlord cannot distrain for rent after the term has expired, and the premises are yielded up to the landlord.—2 *Wen.* 148.

Any lessee has a right to under-let unless restricted by the terms of his lease.

In distraining for rent the affidavit required should be made before some officer generally authorised to administer oaths, not before a justice of the peace.—9 *Wen.* 340.

The obligation to keep demised premises in repair, depends on the covenants and agreements contained in the lease.

Under a covenant by the lessee generally to repair, &c., without any exceptions, he his bound to re-build the house if it has been burnt down, even without his fault.—6 *Term. Rep.* 488.

A lessee who covenants to pay rent and to repair, casualties by fire excepted, is liable for rent, though the premises are burnt down, and not rebuilt by the lessor after notice.—1 *Term. Rep.* 310. But see *Amb.* 619.

No special words are required to constitute a lease, but all the stipulations, restrictions, reservations, covenants and agreements made or entered into by or between the lessor and lessee should be inserted in the lease. Its legal construction is always against the lessor and most beneficially for the lessee.—6 *Coke.* 34, *b.*

One of the most ancient modes of conveying a freehold or fee simple interest in real estate was, and may still be, by lease and release; the owner first leasing the premises for a term of years and then, by another instrument, releasing to the same lessee his interest in the reversion.

NEW SYSTEM OF PAVING.

They are trying a new system of paving in France. It consists of a kind of artificial stone formed of clay, sand, cement and pulverized charcoal. The mixture is baked, and forms an exceedingly hard substance, with a rough substance; and the stones are so formed as not only to be placed with symmetrical order, but also to give a hold to the feet of horses.

SELF-MADE MEN.

No. VI.

ROBERT HILL,

Was born at Tring, in Hertfordshire, England, where an old relation having taught him his letters, he learned to read by himself at home. This acquisition was so remarkable in a child, that he was, for the first time, sent to school, but was, by some accident, prevented from going there longer than seven weeks, during which time, however, he learned to write. When he was about fourteen years of age, he was put apprentice to a stay-maker and tailor at Buckingham; but his desire of knowledge being still predominant, he contrived to gratify it under every possible disadvantage. With the first money that he could scrape together he purchased Beza's Latin Testament and a Latin Grammar. He then applied to the boys at the free school and got himself employed by them, to run on errands, or to render them such other services as was in his power, having always first stipulated, that in return they should tell him the English of the Latin words in some rule of his Grammar. In proportion to the knowledge he acquired, he became more sensible of what was yet wanting; and as soon as he was able, he added a Gradus to his Testament and Grammar, by which he was assisted in his pronunciation. As there are few difficulties insurmountable by perservering labour, Hill, at the expiration of his apprenticeship, had not only learned his trade, but could read and understand several Latin authors tolerably well.

He was now known to the neighboring gentlemen, one of whom, upon the death of his son, gave him some of his books, and among others, there happened to be a Greek Testament. This was a new object of curiosity, and not being able to rest while he had a book in his possession which he could not read, he immediately applied himself to learn Greek. In this arduous task, he received some assistance from a young gentleman at Buckingham, and in about three years, he began to read a Greek author with some pleasure. The same restless curiosity and desire of knowledge, which thus attached him to books, induced him not to follow his business at home, but to travel the country, as an itinerary mender of clothes and stays; but in this state of poverty and dissipation, he was still a hard student, and when he was four and thirty years of age he began to learn Hebrew.

The first book that he read for this purpose happened to be Shindler's Grammar; but as all books that are written to instruct those who have no master, in the first rudiments of science, suppose many things to be known which they ought to teach, Hill found several deficiencies in Shindler, which he was at a loss to supply; and after much labour and much contrivance, he thought if he could, in his peregrinations, associate himself with some Jew, who, like himself, was travelling the country for a subsistence, he might take the same rout, and should be able to get such instruction as he wanted. The project he immediately put in execution, and finding an itinerary Jew at Oakingham, he communicated his scheme, and stated his difficulties. The Jew was very ready to assist him, but Hill found him not able; this inability, however, he supposed to be accidental, and therefore applied himself to many others, but to all with as little success. To Hill, however, nothing was less eligible than to relinquish his purpose, he therefore had recourse to other Hebrew Grammars, of which he read eleven, some answered his purpose best in one particular and some in another, but not any one of them contained all that he expected to find. After he had thus acquired the knowledge of Latin, Greek, and Hebrew, and made himself acquainted with whatever such travels as his could produce to his observation, almost constantly studying half the night that he might pursue his journey and his business in the day, he returned to Buckingham, where he continued buried in obscurity and scarcely subsisting by his labour, but perfectly contented with his condition, extremely modest and diffident in his discourse, and without any new fangled notions in religion, which generally distinguish a smatterer in learning.

He wrote, 1. Remarks on Berkeley's "Essay on Spirit." 2. "The Character of a Jew." 3. "Criticisms on Job;" and died at Buckingham, in July, 1777, aged 78. According to his own account, he was seven years acquiring Latin, twice as much in learning Greek, but Hebrew he found so easy, that it cost him little time.

BRICK.

In France attempts were long ago made to substitute animals and machines for the treading of men's feet in the clay-kneading-pit; but it was found that their schemes could not replace, with advantage, human labor, where it is so cheap, particularly for separating the stones and heterogeneous matters from the loam. The more it is worked, the denser, more uniform, and more durable, the bricks which are made of it. A good French workman, in a day's labor of 12 or 13 hours, it has been said, is able to mould from 9,000 to 10,000 bricks, 9 inches long, 4¼ inches broad, and 2¼ thick; but he must have good assistants under him. In many brickworks near Paris, screw-presses are now used for consolidating the bricks and paving tiles in their moulds. M. Mollerat employed the hydraulic press for the purpose of condensing pulverized clay, which, after baking, formed beautiful bricks; but the process was too tedious and costly. An ingenious contrivance for moulding bricks mechanically, is said to be employed near Washington. This machine moulds 30,000 in a day's work of 12 hours, with the help of one horse, yoked to a gin wheel, and the bricks are so dry when discharged from their moulds, as to be ready for immediate burning.

Floating bricks, are a very ancient invention: they are so light as to swim in water; and Pliny tells us, that they were made at Marseilles; at Colento, in Spain; and at Pittane, in Asia. This invention, however, was completely lost, until M. Fabbroni published a discovery of a method to imitate the floating bricks of the ancients. According to Posidonius, these bricks are made of a kind of argillaceous earth, which was employed to clean silver plate. But as it could not be our tripoli, which is too heavy to float in water, M. Fabbroni tried several experiments with mineral argaric, guhr, lac-lunæ, and fossil meal, which last was found to be the very substance of which he was in search. This earth is abundant in Tuscany, and is found near Casteldelpiano. in the territories of Sienna. According to the analysis of M. Fabbroni, it consists of 55 parts of silicious earth, 15 of magnesia, 14 of water, 12 of alumina, 3 of lime and 1 of iron. It exhales an argillaceous odor, and, when sprinkled with water, throws out a light whitish smoke. It is infusible in the fire; and, though it loses about an eighth part of its weight, its bulk is scarcely diminished. Bricks composed of this substance, either baked or unbaked, float in water; and a twentieth part of clay may be added to their composition without taking away their property of swimming. These bricks resist water, unite perfectly with lime, are subject to no alteration from heat or cold, and the baked differ from the unbaked only in the sonorous quality which they have acquired from the fire. Their strength is little inferior to that of common bricks, but much greater in proportion to their weight; for M. Fabbroni found, that a floating brick measuring 7 inches in length, 4½ in breadth, and one inch eight lines in thickness, weighed only 14½ ounces; whereas a common brick weighed 5 pounds 6⅞ ounces The use of these bricks may be very important in the construction of powder magazines and reverberatory furnaces, as they are such bad conductors of heat, that one end may be red hot while the other is held in the hand. They may also be employed for buildings that require to be light; such as cooking-places in ships, and floating batteries, the parapets of which would be proof against red-hot bullets.—*Ure's Dictionary.*

Many persons have singular partialities and antipathies. A thief does not like to see two upright posts and a piece of timber across the top.

MANNA.

At a distance of fifteen miles from, and at an elevation of about two thousand feet above the level of the sea I first saw the tree which produces the manna. This remarkable substance is secreted by several trees, and in various countries in the East. In some parts of Persia it is believed to be an insect secretion, and is collected from a shrub called *gavan*, about two feet high, bearing a striking resemblance to the broom. In the hilly district of Looristan, as in Mesopotamia, we find it on several trees of oak species, which there, however, are of more stunted growth than those of England. From these the manna is collected on cloths spread beneath them at night, and it then bears the form of large crystal drops of dew, such as we see on plants in England in the early part of morning. Burckhardt observes, that at Erzroum a substance resembling manna in taste and consistence distils from the tree which bears galls, and with which the inhabitants of the country form one of the principal articles of their food. These would appear to be different from the Sicilian manna used for medicinal purposes, and with botanists have considered as a vegetable gum, procured in Calabria and Sicily, and to be exuded from the *Fraxinus ornus*, or flowering ash. A supposition has, however, been started, that this might be also the production of the *aphes* tribe.—*Lieut. Wellsted's Travels in Arabia.*

MORAL INFLUENCE OF FOREIGN COMMERCE.

It is unquestionably true that wealth produces wants, but it is a still more important truth that wants produce wealth. Each cause acts and re-acts upon the other; but the order, both of precedence and of importance, is with the wants which stimulate to industry; and with regard to these, it appears that, instead of being always ready to second the physical powers of man, they require for their development "all appliances and means to boot." The greatest of all difficulties in converting uncivilised and thinly peopled countries into civilised and populous ones, is to inspire them with the wants best calculated to excite their exertions in the production of wealth. One of the greatest benefits which foreign commerce confers, and the reason why it has always appeared an almost necessary ingredient in the progress of wealth, is its tendency to inspire new wants, to form new tastes, and to furnish fresh motives for industry.

WASHINGTON AND VERNON.

When the admiral was attacking Porto Bello, with his six ships only as is described on the medal struck on the occasion, he observ a fine young man in appearance, who, with the most intrepid courage, attended with the most perfect calmness, was always in that part of the ship which was most engaged. After the firing had ceased, he sent his captain to request he would attend upon him, which he immediately obeyed; and the admiral entering into conversation, discovered by his answers and observations that he possessed more abilities than usually fall to the lot of mankind in general. Upon his asking his name, the young man told him it was George Washington; and the admiral, on his return home, strongly recommended him to the attention of the admiralty. This great man, when he built his house in America, out of gratitude to his first benefactor, named it "Mount Vernon," and at this moment it is so called.

VICE AND WRETCHEDNESS IN LONDON.

Mr. Hartley, in his recently published work on milk, says that it is estimated that in London there are 12,000 children undergoing a system of vicious training, to fill the ranks of those who are removed by transportation, imprisonment, violent or natural death—that 30,000 persons live by theft and fraud; 3000 are regular receivers of stolen goods; 10,000 are addicted to gambling; 20,000 are beggars about the streets; 15,000 are habitual gin-drinkers, 23,000 are annually found drunk in the streets, 150,000 have abandoned themselves to systematic debauchery and profligacy.

COCOA NUTS.

Many who purchase cocoa nuts at our fruit stands are unaware of the curiosity they present to the stranger while growing. The tree is a native of Africa, the East and West Indies, and South-America. It is a kind of palm, from 40 to 60 feet high; the trunk is entirely naked, having immense feathers, each 14 or 15 feet long, 3 feet broad and winged The nuts hang from the summit of the tree in clusters of a dozen or more. The uses made of the tree and its fruit would require a long description. It affords food, clothing, shelter and protection in innumerable ways.

ALBANY, SATURDAY, MARCH 19, 1842.

BACK NUMBERS.

The call for complete sets of the paper from its commencement, by new subscribers, is an indication that its value as a work for future as well as present reading, is appreciated. We are compelled again to state, that the first number cannot be supplied at present, the edition having been long since exhausted. There are a few sets remaining of all the other numbers, which will be furnished to such as desire it who have paid, and to those who accompany their orders with the pay. The first number will be reprinted as soon as it can be ascertained how many will be required. When printed, it will be sent to all those in whose files it is missing, that they may have a complete volume at the end of the year, which will be worth binding for preservation.

"THE SWEAT OF THE BROW."

Every dispensation of God to man is intended as a blessing. Even those of a punitive nature are not exceptions. When he said "cursed be the ground for thy sake," it was not only as a punishment for his sin, but as a wise provision to mitigate its consequences. When he said "thorns and briars shall it bring forth unto thee," it was because a thorn was in his heart that idleness would sharpen, and a brier in his bosom that industry alone could eradicate.

The laws of God are the same in the economy of nature that they are in the statute book of revelation. There is not a section of the moral that has not its counterpart in the natural law, thus showing the reason of its enactment and commending it to the common conscience of mankind. This is a wise arrangement: on the one hand proving the truth of that revelation which became necessary for man, when his moral perceptions had been blunted by sin; and on the other holding the lash of immediate pain over those who will not otherwise be deterred from evil. Still with all this light many are groping blindly on in doubt. With this double demonstration of the truth, many will still cling to error, and when the lash stings, they claim sympathy as the victims of misfortune!

There is no arrangement of Providence against which man has more universally rebelled than that which ordains that he shall eat his bread by the sweat of his brow. Or in other words, the depravity of man is seen in nothing so plainly as in his *laziness*.

By this homely and expressive phrase we would not be understood to mean a want of activity, but an aversion to honest industry. The distinction will be seen at once. There is no people on earth so active, so enterprising, so restless as our own; and at the same time we are lazy! Our activity is to acquire the fruits of the industry of others. Our enterprise is to accumulate in order that we may not be forced to labor, and our very restlessness is an indication of our rebellion against the law, written alike in the Bible and in the stomach. "He that will not work, neither shall he eat." We are ambitious, energetic, yea enthusiastic, but not industrious.

All admit the necessity of labor. If bread is eaten, some one's brow must sweat for it. Clothing and all the comfortable concomitants of civilization must be thus produced. The only question is, who shall produce? We would be far from underrating the usefulness of those whose mental efforts give to society a fair exchange for the substantials that they consume, but we would at the same time insist that their obligations to society as well as their duty to themselves demand that they should devote a part of their time to manual labor. Nor would we so interpret the decree of a merciful Creator or to doom any to a life of uninterrupted and slavish toil. The time *will* come when all will be learned, and all will be laborers. The time *shall* come when he who is content with the modest avails of incessant industry shall be honored as a man, while the gilded moth who lives upon his father's leavings will be named a pauper.

The artificial, curse-breeding distinction of society are fast vanishing. The high towers reared by corrupt legislation, assailed by envy and defended by arrogance, are fast falling before the well aimed blows of sturdy democracy. The firm barriers which frigid selfishness has built like a wall of ice between man and man are fast melting in the sun of christian love. The time is not distant when the invidious distinction of a "*laboring class*" will be destroyed—when all will desire to be looked upon as laborers even though they eat the bread of idleness.

The theory that manual labor is inconsistent with the highest attainments in intellectual pursuits, is one of the weakest and wickedest fallacies that ever obtained universal sway. The undisputed fact that bodily and mental vigor are intimately connected; the obvious truth that those students who devote regular hours each day to some branch of honest industry; and the example of our greatest men who have been such students, are all exhibited in vain. The coxcomb clings to the impression that while some must work, he may live by his wits. To work is, forsooth, undignified! And when dyspepsy brings the doctor to say that he *must* exercise, because to saw his wood might soil his dainty fingers or degrade him in his fellow coxcomb's estimation, the dumb ass swings his dumb bells! He should be forced to live upon the product of his labor, as he probably would be, but for that pet of idlers, the credit system.

The meanest passion of the human heart is pride, but he who is both proud and lazy, is superlatively contemptible. If God will ever hold man guiltless for a smile of scorn, it will be when such a being is its object; and if there is one who more than any other may claim the lowest grade of meanness, it is he who can sneer at laborers, while he wears the clothing that they weave, and eats the bread they earn.

ALBANY APPRENTICES' LIBRARY.

A week or two since we promised an article on the rise, progres, and condition of the apprentices library of this city. Through the courtesy of the present efficient secretary Jas. S. Gould, we have been permitted to examine the records, from which we gleaned the following facts, showing conclusively the benefits resulting from associations of this character.

It seems in the latter part of November 1820, Mr. Wm. Wood of the city of New York and the founder of the apprentices library in Boston, New York and elswhere, visited this city and urged, in a conference with several citizens, the establishment of a similar institution in this city. Acting under a conviction of its importance, a committee was named consisting of Chas. R. Webster, Ebenezer Baldwin, Gideon Hawley, Sol. Southwick, A. H. Center and John Meads, who appointed John Cook librarian, with authority to collect donations of books. The first public notice was on the 30 of Nov., and on the 1st of Dec. the receipt of 78 volumes was acknowleged, and before the 18th of Jan. the library numbered over 1200 volumes, showing that the design met the hearty approval of the citizens. These books came in the most part from the old and leading inhabitants of the city, who as well as the citizens generally, seemed fully impressed of the importance and usefulness of an institution of this character. Among the donors we notice the names of Gov. Clinton, Theo. Sedgwick, Solomon Van Rensselaer, Solomon Southwick, and many others whose names the world claim as common property, and who are well known as leaders in those enterprises which have confered such lasting good upon society.

At the first meeting of the trustees of the library, under the act of incorporation, six months after the first efforts were made, it was found that the library numbered 1551 volumes, and upwards of 500 pamphlets. A report was made at the same time, demonstrating conclusively the usefulness of the institution. Encouraged at their unexpected success, the efficient and enthusiastic committee redoubled their efforts, and by an eloquent public appeal to their fellow citizens, firmly established the library. Mr. Southwick soon after delivered an address before the apprentices, which, being printed, commanded universal attention, was translated into the French language, and was republished in Paris and London, under the direction of the great philanthropist, Wilberforce.

All apprentices are admitted to the library without any initiation fee, and are allowed to take books from thence for a given space of time, at the rate of one cent per volume. The fund accruing from this regulation is devoted to the purchase of new books, and the repair of old ones. The library is open three evenings in the week, one evening being exclusively devoted for the benefit of female readers.

Of the immense benefits of this institution, our readers in this city can bear witness; it more than realizes all that was anticipated, with regard to its influence, and many among those who have commenced life on their own account, can testify from experience to the good results which the establishment of this library has conferred upon them.

There are at present over 2000 volumes in the library, and it is greatly increasing. As a proof of its utility it is only necessary to state the fact that within the last nine months above 3,500 volumes have been loaned to apprentices in the city. Can it be doubted, the knowledge derived from these volumes will be without its influence?

A NEW PLAN FOR PROPELLING CANAL BOATS.

Many plans have been proposed for navigating our canals by steam, or by a motive power within the boat. Some of these have been tried, and have resulted, if not in entire failure, in but partial and imperfect success. We have, however, notwithstanding these repeated failures, always esteemed such a project feasible. Paddle wheels cannot be used; this is true in theory and has been conclusively shown by experiment. Then only one plan remains, to have the power act direct upon the bottom of the canal; the only means, conceded by all acquainted with the matter, by which the object can be effected. Acting upon this principle, a boat was rigged last season, with grapnels, or, as they were technically termed, "claws," which fastened to a slack chain revolving in the centre of the boat and dropping to the bottom, dragged the boat forward. As was anticipated, the plan failed, and the persons engaged in it abandoned the idea of navigating the canal by any other means than at present employed.

We heard no more until a few days since, when we were shown the model of a boat, made by Mr. John A. Pitts, of this city, which we predict will, when the experiment is made, be crowned with complete success. The principle is correct, the operation simple and direct. It is the simple principle of the setting pole, of the operation of which the shoulders of many of our boatmen bear witness. The power, steam or horse, as the case may be, is in the boat, and for all purposes will occupy but small space. A revolving motion is all that is required, and this is the easiest to be gained. On each side of the boat are cog chains which revolve on suitable wheels of proper dimensions, at the extremities of each side. Attached to these chains are setting poles, which swing by a swivel, and as the wheels are set in motion by any circular acting power, the poles drop to the bottom and remain there till the boat passes its length, when others drop down in similar manner, while the former are traveling forward to take their place again at the head of the boat. In fact, they are perpetual acting setting poles, and being suspended by swivels, accommodate themselves to any depth of water, standing at different angles with the bottom. The whole can be so worked as to be concealed entirely from view or accident, occupying no more than the width of six inches at the sides of the boat. Because of the peculiar and simple manner of attaching the poles to the chain, the boat will obey the rudder as readily as any other. The model is now at the office of the Mechanic, where it may at any time be examined. The cost of the experiment with horse power would be but little, and we would recommend to our forwarders to test the practicability of the plan. Should it succeed it would be of inestimable value, being cheap and simple in its construction. As to speed, any rate can be readily attained. Call and examine.

LEGISLATIVE DUPLICITY.

It has become our painful duty to inform our readers, that their efforts to abolish the odious prison system have failed, at least for this session. The bill introduced by Mr. Weir has been passed by to give room for partisan legislation; and those very men who last fall promised solemnly to use their utmost endeavors to redress the evils under which the mechanics have so long labored, of which they have so often complained, these men, *now* that they are secure in their cushioned seats in the Assembly chamber, sit quietly with folded arms, and suffer the subject to be sent, without even a debate, to its lasting sleep. Men who came into the shops of the mechanics with their hands on their craven hearts, and with a lying tone of sympathy professed their determination, "*should they be elected*," to do away with the evil, now that they are elected, turn carelessly on their heel and bid the mechanic go whistle. Instead of attending to the public good, they waste their precious words at the rate of three dollars per diem, on subjects of purely a partisan character, nor bestow a thought upon those things that promise to be of public good. Even our own double dealing member from this county has shown himself equally guilty, and his conduct should be branded by every mechanic in this city. In the name of Heaven we would ask, are the interests of the mechanics thus to be trifled with? Are obligations and promises to be broken thus lightly, or do these honorable members suppose that the mechanics will be satified with words and protestations? Let them suppose what they may, one thing is certain —their conduct is watched; and after this trifling, should they dare to appear again before the public for the mechannics' suffrages, they will learn to their cost it will not be forgotten!

There is one resort still left, and we are not without hope. We are confident that we shall yet succeed, but we lament the delay which will ensue. We regret that we have another proof of the falsity of political hacks, and for the credit of humanity we are sorry to see this open and shameless exhibition of Legislative duplicity.

Mechanics be of good cheer, and remember the BALLOT BOX! In that there is no deception, and its results are decisive. Let the subject be kept alive; remember the unsuccessful efforts of the past ten years, and then ask yourselves if it is not time to *assert* your rights in a manner that cannot be mistaken. Remember the Ballot Box! We repeat it is the last, the only resort. Experience has shown what dependence can be placed in *promises*.

HYDROPATHY.

We have finally another system of medical practice established among us, one which makes use of no medicine whatever! There appears to be but two more *systems* beyond this, and the *practice* is exhausted—first, that which requires no pay, and lastly, that which gives a premium for patients. Mercury, cayenne, rutes and yarbs, all will be done for, and we shall be able to defy Death for some centuries at least before closing accounts with him.

We believe that Germany has furnished us with several excellent systems of practice, each better than the other, which, with the infallible remedies suggested by the skill of some hundreds of our own leeches, who have perfected themselves in the healing art by spending forty days and nights in the woods, have rendered it almost suicidal to die of disease. Nothing short of accidental death by rail-road concussion or steam boat explosion ought to be tolerated; nor should any other death entitle a man to christian burial; while he who neglects to live should be buried where two roads meet, with a stake driven through his coffin.

We do not intend to speak in derision of hydropathy, nor of any other pathy of which we are ignorant. M. Richter has opened an office at 58 Broadway, for the purpose of receiving patients, whom he proposes to cure, we believe, with *water* principally (kalt wasser?) Those who prefer *easy* cures will be likely to apply, for nothing can be *easier to take*, internally or externally, than water! Children, too, may bid farewell to castor oil, picra, and those other delectable doses, which all so vividly remember as the concomitants of the colds and snuffles of their younger days.

We are told by M. Richter's advertisement that there are at present about 70 hydropathic institutes in Germany, in full operation, and that the system is making rapid progress in Europe.

DEGENERACY OF ALLIGATORS.

It is melancholy to think that the alligator, too, the leviathan of Job, has degenerated! In a recent lecture in New-York, on geology, Prof. Silliman alluded to a species of alligator which once existed in England, that had the power of contracting the lenses of its eye by a compression of the humors, so as to convert it either into a telescope or microscope. Their remains have been found at Bristol, Brighton, and York, and they are supposed to have existed, at the same time with the flying lizards and other delicate and beautiful reptiles, when the land whereon stands the British kingdom was only a half formed island, filled with swamps and slimy valleys, among which these creatures sported.

ST. PATRICK'S.

The manner of celebrating this great Irish holiday, was this year entirely reversed. Instead of broken pates and bloody noses, the effects of bacchanalian excesses, there was a general turnout of the sons Erin, in which many of our own societies joined, to celebrate the day as a grand temperance fete. Ever may the day be thus commemorated.

CORRESPONDENCE.

Rochester, March 12th, 1842.

Dear Sir—Below are the names of twenty-eight new subscribers to the Mechanic, making about eighty in this city. The paper is well received by the mechanics here, who form a good proportion of the city, and are among the most intelligent and enterprising of the inhabitants. They have a literary association composed of about 230 members, and an extensive library. The room is fitted up with much taste, not to say elegance. The liberality of the Association in loaning books to apprentices and others who are not members, speaks loudly in their praise. I have been informed that the association, when first formed, could scarcely boast of a dozen volumes; but they have struggled along bravely and without aid from any but mechanics, and now they have a library of about 2000 volumes! This association will not suffer in comparison with any in the state. I accepted an invitation to attend one of their debates on Tuesday evening last; question, "Is it for the best interests of the country that Congress should establish a prohibitory tariff?"—and I assure you the arguments and eloquence displayed by the disputants would put to blush many of our representatives in Congress, to

say nothing of our members of the State Legislature. The question was not decided, but lies over for discussion till another week.

There is also another association called the Mechanics' and Workingmen's Benevolent Society, which comprises about 300 members, many of whom are members of the literary association.

The mechanics in this direction are awake and arousing to their true interests. It seems it has been the practice of some of the larger gaocery dealers to issue their own due bills, payable in goods at their stores; and these are put into circulation at from 10 to 15 per cent discount; and in one instance I was shown that $75 purchased $100 in due bills of a certain merchant. These are paid to the working men, and they in exchange are obliged to pay a profit of from 40 to 50 per cent, to indemnify the dealer, besides allowing him a profit for his goods. This evil the society is striving to eradicate; and they will succeed; for disguised as it may be, it is still rank swindling.

IRON WORKS OF BUFFALO.

It is gratifying to find that newspapers are beginning to turn their attention to the statistics of the manufactures in their respective vicinities. It has until lately been quite unusual to see any thing of the kind, at least to any extent. Much valuable information might be furnished to those who are gathering such matters, if the newspapers, which are now so generally diffused throughout the country, would contribute their aid.

We copy the following items from the Buffalo Patriot and Journal:

"No branch of business in our city seems to increase more rapidly, or have a more healthy tone, than the manufacture of iron and steamboat machinery. During the past week another very extensive establishmert of this kind has been put in operation, wherein the heaviest and most complicated pieces of machinery or millgearing may be cast and finished, with the utmost despatch.

On Thursday, for the first time, the powerful engine was put in motion in the *Buffalo Iron Works*, and attracted much attention. The establishment was chartered last season, with a heavy capital, and is designed to embrace not only the casting of heavy shafts, the boring of cylinders of any magnitude, but the manufacturing of all the intricate small works, incidental to such establishments. The works are conducted by Messrs. Williams and Clark, mechanics of acknowledged ability and industry."

Besides these establishments there are the *Eagle Furnace*, where forty hands are constantly employed, which turned out, besides a large amount of other work, 14,000 stoves during the past year.

The *Arcole Iron Works* in Ohio are also owned in Buffalo. This concern made 450 tons pig iron during the past year, worth $30 per ton, and 550 tons castings and hollow ware, worth 30,000 dollars, the whole of which was sent to the Buffalo market.

The *Union Furnace*, situated on the south bank of the large canal slip, turned out, during the past year $40,000 worth of Hathaway's Hot Air Stoves.

The *Geauga Iron Works*, at Painesville, Ohio, an establishment, which does an immense amount of casting, is also owned in Buffalo.

Beside the large quantity of iron consumed in the above foundries, and the vast amount of capital required to carry them on, there are other establishments of equal importance, yet not quite so extensive. Newman's Boiler Manufactory is one of this description: Also, Shepard, Cameron & Adams, and others not now in our remembrance. All of these employ a number of mechanics, and require a large amount of capital to sustain them.

SYNOPSIS OF NEWS, ETC.

The resolution adopted in the Assembly on Saturday last, fixed upon the 12th of April as the day for the adjournment of the Legislature, has been unanimously concurred in by the Senate.

Mr. Goldthwait has just completed a large and beautiful copperplate engraved plan of the Railroad Bridge across Connecticut River, by Mr. Howe, the patentee and architect. Mr. Howe, we understand, has offered to construct a bridge upon this plan across the Hudson river, with only one pier in the middle, making two stretches of 500 feet each, and the bridge sufficiently high to let ordinary craft under without raising the draw.

During the month of February there arrived, at the various ports of the U. States, 5 ships and 4 brigs, engaged in the whale trade, bringing 8,456 barels of sperm oil, and 6,600 barrels whale oil— total gallons, 15,056.

The mail brought by the steam ship Unicorn, was the largest ever arrived in the United States. The number of letters was about 40,000, and there were 40 bags of newspapers. The postage on the letters for New York amounted to about $3300; Philadelphia $650, Baltimore $200; Albany $500. The clerks in the post office worked like horses. Twenty-one hands were employed the whole of last night in sorting, counting, &c., the letters and other packages, and by indefatigable exertions every thing was sent in due season.

Upwards of 300,000 letters are quarterly returned to the General Post Office at Washington from the different Post Offices in the Union, as dead

A red oak tree grows in Louisiana, which is forty-four feet in circumference, or fourteen in diameter. It appears sound, and has no branches within fifty feet of the ground.

The navigation of Lake Erie is open. The steamboat Gen. Scott arrived at Buffalo from Detroit on Monday night. Very little floating ice in any part of the lake.

The production of whiskey in Baltimore, is said to be 10,000 gallons per day less than it was 6 months ago.

A large meeting of the typographical profession was held at Jackson, Miss, on the 12th ult. to protest against the report of the committee appointed by both branches of the legislature to examine the Penitentiary, recommending the propriety of establishing a printing office in that institution, for the purpose of doing "the public printing and transient work." The concluding resolution adopted at the meeting, votes a leather medal to each of the chairmen, and pewter medals to the members of the respective committees.

The jail at Erie is empty, and it is the first time it has been so since its erection, a period of fifteen years. The advocates of temperance may attribute this to their agency.

The London Times gives a list of 59 members of the House of Lords who are 72 years of age and upwards. Of this number 17 are 80 years old or upwards.

The number of buildings erected in New Orleans during the year 1841 was 345. The total number burnt was 57; the amount of loss on which was $172,000.

A thousand laborers are wanted at St. Catherines U. C. to work on the Welland canal feeder at 88 cents per day. Board may be had at $2 per week.

A lead mine said to yield 80 per cent, was recently discovered in the township of Bedford, Kingston District, U. C. The land is owned by a company who propose engaging in extensive mining operations the ensuing season. A bed of iron ore yielding 75 per cent., has also been found at Sherbrook, near Perth, possessing more than usual malleable qualities.

The Rifle ordered by the Emperor of Russia, has been despatched to the Autocrat, by Mr. Billinghurst, of Rochester the manufacturer. Those who saw the death-dealing instrument, pronounce it to have been every way worthy of a Rochester mechanic. It had a black walnut stock, gold mountings, and cost 400 dollars. A man has been engaged on it steadily for three months.

More than £20,000, says Dr. Ure, have been squandered upon a baking apparatus for condensing the alcohol which escapes from bread in the oven; but it is thought that the complexity of the apparatus will prove an effectual obstacle to the commercial success of the project.

The Railroad companies beteen Albany and Rochester commenced running two trains of cars daily, on the 1st inst.

The extensive paper mill of Mack, Audrus & Woodruff, at Ithaca, was totally destroyed by fire on Wednesday morning last. Loss, $20,000.

An old picture on a solemn fact, represents a king sitting in state, with a label 'I govern all;' a bishop with a legend, I pray for all;' a soldier with a motto, 'I fight for all;' and a farmer, drawing forth reluctantly, a purse, with the superscription, 'I pay for all.'

Flower in New York is $6, 12 per barrel; in Philadelphia $6.

Ice brought from the Illinois river to Cincinnati was sold on the 26th ult. at auction, at prices ranging from $4,25 to $6,25 a ton.

By a recent law of Tennessee, a bounty of fifty cents per pound is promised for reeled or raw silk raised in the state, and ten cents a pound for cocoons.

Sixteen companies are now engaged in shipping Ice from Boston to the East and West Indies and New Orleans. The ice exported from Boston, amounts to $600,000 a year. Massachusetts' ice now sells in Bombay, so that it is in every day use there. A pound of ice will pay there for a pound of cotton.

"Intelligent gentlemen of England, who have every facility for forming a correct opinion, estimate the cotton crop in India of 1841, at 800,000 bales, which is more than the entire crop of the U. States in 1827, and more than our total exports in any year prior to 1832 —showing an increase more rapid than at any time in the United States since its introduction into the country.

The number of chancery cases in England, at present, is thirteen thousand six hundred, involving an amount of $210,000,000. Nine-tenths of this enormous sum will be absorbed by the lawyers.

In the British Provinces *ten* hours is a day's work. English capitalists and masters are persuaded that men can do more in ten hours than in thirteen, and therefore work their journeymen mechanics but ten hours per day. We know their philosophy to be correct.

"Aristocracy," says a distinguished French orator, "is the league, the coalition, of those who wish to consume without producing—live without working—occupy all public places, without being competent for them, and seize upon all honors without meriting them;—that is Aristocracy."

MINIATURE PAINTING ON IVORY.

D. WAGNER Miniature Painter, has taken a room in Donw's New Building, corner of State and South Market streets, where he respectfully invites the citizens to call and see his specimens. This room is No. 22, 3d floor, entrance from either State or Market sts.

☞ IMPORTANT WORK!

Now in the course of Publication,

A DICTIONARY OF ARTS, MANUFACTURES AND MINES.

Containing a clear exposition of their principles and practice: By ANDREW URE, M. D., F. R. S., M. G. S., M. A. S., London, Mem. Acad. N. S., Philadel., S. Ph. Soc. N. Germ. Hanov., Mulli., &c. &c. &c. ☞ Illustrated with one thousand two hundred and forty-one engravings. ☜

This is unquestionably the most popular work of the kind ever published, and a book most admirably adapted to the wants of *all classes of the community.* The following are the important objects which the learned author endeavors to accomplish:

1st. To instruct the Manufacturer, Metallurgist and Tradesman in the principles of their respective processes, as to render them, in reality, the masters of their business; and to emancipate them from a state of bondage to such as are too commonly governed by blind prejudice and a vicious routine.

2dly. To afford Merchants, Brokers, Drysalters, Druggists and Officers of the Revenue, characteristics descriptions of the commodities which pass through their hands.

3dly. By exhibiting some of the finest developments of Chemistry and Physics, to lay open an excellent practical school to students of these kindred sciences.

4thly. To teach Capitalists, who may be desirous of placing their funds in some productive branch of industry, to select, judiciously, among plausible claimants.

5thly. To enable gentlemen of the Law to become well acquainted with the nature of those patent schemes which are so apt to give rise to litigation.

6thly. To present to Legislators such a clear exposition of the staple manufactures, as may dissuade them from enacting laws which obstruct industry, or cherish one branch of it to the injury of another.

And lastly, to give the general reader—intent, chiefly on *Intellectual Cultivation*—views of many of the noblest achievements of Science, in effecting those grand transformations of matter to which Great Britain and the United States owe their paramount wealth, rank and power among the nations of the earth.

The latest Statistics of every important object of Manufacture are given from the best, and usually from official, authority, at the end of each article.

The work will be printed from the 2d London edition, which sell for $12 a copy. It will be put on good paper, in new brevier type, and will make about 1400 8vo. pages. It will be issued in twenty-one semi-monthly numbers, (in covers) at 25 cents each, payable on delivery.

☞ To any person sending us five dollars, at one time, in advance, we will forward the numbers by mail, *post paid*, as soon as they come from the press.

To suitable Agents, this affords a rare opportunity, as we can put the work to them on terms *extraordinarily favorable.* In every manufacturing town, and every village throughout the United States and Canada, subscribers may be obtained with the greatest facility. Address, *post paid*, La Roy Sunderland, 196 Fulton street, New-York.

L. C. HAMMOND is sole agent for the above work in this city, Troy, Lansingburgh, Schenectady and Waterford, to whom application can be made at No. 3 Commercial Buildings.

Any one leaving his address at the above place, will have the numbers of the work delivered to him regularly on the above terms.

MISCELLANY.

EVENING.

BY JOSEPH H. BUTLER.

Dim o'er the earth descends the night,
The stars have lit their lamps of light;
Blue glows the heaven's canopy,
As a vast ocean hung on high—
And streaming through the rifted sprays,
How soft the silvery moonlight plays.
While beaming on the dazzled sight,
Sparkle those blessed isles of light,
So bright—so pure—they gem the pole—
They seem the dwellings of the soul!
O had I now the eagle's wing
To aid my spirit's wandering,
I'd pass those dark and cloudy bars,
And tread the pathway of the stars.
My mother! thou art where no woe
Can wring the pure and gentle heart;
And I would not that thou may'st know
What waves of sorrow round me flow,
Since we were torn apart!
Cast on the world's wide shoreless sea,
"An arkless dove," I went from thee.
'Tis now the vesper hour of prayer;
The very winds themselves are still;
And rolling on her silent car,
The Moon comes up yon cloudy hill.
When Death shall come, (as come he must)
And dust shall seek its kindred dust;
When on my lowly grave shall spring
The wild-flower, sweetly blossoming—
Redeeming Mercy! gild the tomb;
Grant rays of light and mercy fair,
Rend thou the mantle of its gloom,
Dispel the darkness gathering there!
As morning drives the mists of night,
So may God's forming hand of might
Tear off the veil of mortal gloom,
And raise me glorious from the tomb.

EARLY RISING.

Buffon rose early with the sun, and he used often to tell by what means he had accustomed himself to get out of bed so early. "In my youth," said he, "I was very fond of sleep; it robbed me of a great deal of my time; but my poor Joseph (his domestic) was of great service in enabling me to overcome it. I promised to give Joseph a crown every time that he could make me get up at six. The next morning he did not fail to awake and torment me; but he received only abuse. The day after he did the same, with no better success, and I was obliged at noon to confess that I had lost my time. I told him, that he did not know how to manage his business; that he ought to think of my promise, and not to mind my threats. The day following he employed force; I begged for indulgence, I bid him begone, I stormed but Joseph presisted. I was therefore obliged to comply, and he was rewarded every day for the abuse which he suffered at the moment when I awoke, by thanks, accompanied with a crown, which he received about an hour after. Yes, I am indebted to poor Joseph for ten or a dozen of the volumes of my work."

DIVING-BELLS.

The first diving-bell we read of was nothing but a very large kettle, suspended by ropes, with the mouth downwards, and planks to sit on fixed in the middle of its concavity. Two Greeks at Toledo, in 1588, made an experiment with it before the emperor Charles V. They descended in it, with a lighted candle, to a considerable depth. In 1683, William Phipps, the son of a blacksmith, formed a project for unloading a rich Spanish ship sunk on the coast of Hispaniola. Charles II. gave him a ship with every thing necessary for his undertaking; but being unsuccessful, he returned in great poverty. He then endeavoured to procure another vessel, but failing, he got a subscription, to which the duke of Albemarle contributed. In 1687, Phipps set sail in a ship of two hundred tons, having previously engaged to divide the profits according to the twenty shares of which the subscription consisted. At first all his labours proved fruitless; but at last, when he seemed almost to dispair, he was fortunate enough to bring up so much treasure, that he returned to England with the value of 200,000*l.* sterling. Of this sum he got about 20,000*l.*, and the duke 90,000*l.* Phipps was knighted by the king, and laid the foundation of the fortunes of the present noble house of Mulgrave. Since that time diving-bells have been often employed. On occasion of the breaking in of the water of the Thames during the progress of the tunnel under the Thames, Mr. Brunel frequently descended in one to the bed of the river.

RIGHT AND LEFT HAND.

Dr. Zinchinelli, of Padua, in an essay "On the Reasons why People use the Right Hand in preference to the Left," will not allow custom or imitation to be the cause. He affirms, that the left arm cannot be subjected to violent and continued motion without causing pain in the left side, because there is the seat of the heart and of the arterial system; and that, therefore, Nature herself compels man to make use of the right hand.

LIFE OF A HUSBANDMAN IN HINDOSTAN.

The husbandman rises with the earliest dawn, washes, and says a prayer, then sets out with his cattle to his distant field. After an hour or two he eats some remnants of his yesterday's fare for breakfast, and goes on with his labour till noon, when his wife brings out his hot dinner; he eats it by a brook or under a tree, talks and sleeps till two o'clock, while his cattle also feed and repose. From two till sunset he labours again; then drives his cattle home, feeds them, bathes, eats some supper, smokes, and spends the rest of the evening in amusement with his wife and children or his neighbours. The women fetch water, grind the corn, cook, and do the household work, besides spinning and such occupations.—*Elphinstone's Hist of India.*

THE PHŒNIX.

The earliest account of the far-famed *Phœnix* is given by Herodotus, the father of history; and his account was copied, with additions, by Pliny, Tacitus, and a score of later writers. The general account is well known. When the bird dies, another soon after springs up out of its ashes. The most particular story is this,—"When the high priest built a temple in Heliopolis, Egypt, like the temple of Jerusalem, when he had gathered the wood and set it on fire on the altar to offer sacrifice, a bird came suddenly in the sight of all and fell into the fire and was burnt to ashes in the fire of sacrifice. And the ashes were kept safely some time; and within three days was bred a little worm, that at last took the shape of a bird and flew into the wilderness." The explanation is, that an eagle, aiming at the substance placed on the altar as a sacrifice, was scorched by fire and fell into it, and was consumed. After several days, a worm was found in the spot, which "*at last* took the shape of a bird and flew away." This was enough to build the wonderful story of the Phœnix upon.

CURIOUS HISTORICAL FACT.

During the troubles in the regin of Charles I. a country girl came to London in search of a place as a servant maid, but not suceeding, she hired herself to carry out beer from a brewhouse and was one of those called tub women. The brewer observing a good looking girl in this low occupation, took her into his family as a servant, and after a short time married her. He died while she was yet a young woman, and left her the bulk of his fortune. The business of brewing dropped, and Mr. Hyde was recomended to the young woman, as a skilful lawyer to arrange her husband's affairs. Hyde, who was afterward's Earl of Clarendon, finding the widow's fortune very considerable, married her. Of this marriage there was no other issue than a daughter, who was afterwards the wife of James II., and mother of Mary and Anne, Queens of England.

NOVEL WEDDING.

The annexed novel marriage, which occurred somewhere in this vicinity, is well worthy of preservation.

About a century ago, saith tradition, when clergymen were not so plenty as they now are, a young gentleman and his Dulcinea were anxiously awaiting the happy day which was to see them united in the silken bands of matrimony. They resided on the north side of Tomhenick creek, and the clergyman who had been engaged to tie the knot lived on the south side of the same stream. As the fates would have it, heavy rains fell the night previous to the nuptial day, which rendered the creek impassable. Its waters were rising, and its current becoming more rapid every hour. The clergyman arrived at the appointed time at a place where he had been in the habit of fording the creek; but it was as much as his life was worth to attempt to cross it then. He turned his horse's head to return, when he was hailed, by two voices on the opposite side of the stream—they were those of the groom and bride, who entreated him to stay. After some debate, it was agreed that the ceremony should proceed. In the mean time the friends of the betrothed arrived from the bride's house in the neighborhood. Then was presented a singular spectacle, "the like whereof was never seen before," and probably will not be again. The dominie read the marriage service, on the margin of the creek, while the parties stood on the opposite side. After the ceremony was over, the groom tossed a few guilders across the creek, which the dominie picked up and pocketed as his fee, mounted his horse and proceeded homewards: and the married couple did the same.

AGENTS WANTED.

Several active and enterprising Agents wanted to procure subscribers for two monthly works and this paper. Apply personally at this office, or address *post paid* the publisher of the *Mechanic* at this place.

Subscriptions will be received by the following persons, to whom money may be paid.

G. H. Tingley, 189 Broadway, New-York.	Luther Moore, Rochester.
James M. Edgerton, West Troy.	G. W. Redding, Boston.
William Burton, Cohoes.	W. E. Russel, Schenectady.
Jonas B. Gilson, Waterford.	Levi Willard, Troy.
C. A. Sweet, Lansingburgh.	R. Proudfit, Jr., Newburg.
P. P. Cleveland, Skeneateles.	S. Dickinson, Middletown, Ct.
T. S. Hawks, Buffalo.	H. C. Butler, Meriden.
Benj. Holt, Little Falls.	G. H. Mitchell, Bristol.
J. B. Loak, Utica.	D. C. Mitchell, New Haven.
	Benj. Newberry, Hartford.

To Builders and Contractors.

THE subscriber having purchased Caldwell and Cameron's Lock Establishment, is now prepared to execute orders on their improved plan, in all the variety of Door Locks now used in the best style of building. The utility of these locks will at once be apparent to any one who may examine them. The principal difficulties existing in almost every lock now in use, and so much complained of by builders and house owners, in almost entirely removed. The simple but substantial application of the spring greatly lessens friction, and consequently lessens and tendency to wear. There is no liability in any of its movements, to get out of order, and any number of them may be applied with perfect ease and security to doors of various thickness, without the usual alterations, trouble and expense, that generally attend the putting on of locks, as is best known to the experienced builder. Their utility has been thoroughly tested by experienced men, for the last two years, with entire satisfaction, and are considered by all who have used them, equal and in many respects superior to any other kind of lock now in the American market.

All orders addressed to the subscriber, at the Furnace, Fonda-street, will receive prompt attention,

ROB'T CUNNINGHAM.

Schenectady, Nov. 26, 1841.

Reference may be had to any of the undersigned gentlemen who have given their approving card for publication.

We, the undersigned builders, have used Caldwell and Cameron's patent door locks, and from their simple construction, cheapness and general utility, do not hesitate to recommend them to the public, as equal to any lock of American manufacture now in use.

BOARDMAN & VAN VOAST,
GEORGE McBAIN,
HENRY MORSE, *Builders in Albany*
JOSEPH HORSFALL,
JOHN KELLY,
CORNELIUS THOMPSON,
ELIAS LYON, *Builders in Schenectady.*

I have during the past year, put on a number of Caldwell and Cameron's patent mortice and knob locks, and consider them the easiest to put on, and the best working lock I have ever used or seen. 37 JOHN RAYSIDE, Albany.

LEATHER, OIL, AND FINDING STORE,

No. 13 Hudson Street.

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Wealt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String*, and *Patent Leather*, on hand and made to order. *Albany*, 1841.

NEW YORK STATE MECHANIC,

A weekly paper, devoted to the interests of Mechanics and Manufacturers,

IS PUBLISHED EVERY SATURDAY,

By JOEL MUNSELL,

No. 58 State Street, Albany,

At $1.50 per annum in advance.